

B. Anticipated Mining Methods

The mining method would be strip-mining requiring a cut and fill process. The general sequence of the mining process would be as follows:

- a. Removal of all vegetation (juniper trees, brush, etc.) on an area large enough to accommodate the initial mining operation (approximately 15 acres). The large trees would be stockpiled to be used in the reclamation process for erosion control and wildlife habitat.
- b. Remove and stockpile any topsoil.
- c. Remove all overburden.
- d. Remove and stockpile the raw humate material.
- e. Place overburden in excavation
- f. Replace topsoil.
- g. Enrich the topsoil with humate material.
- h. Replant the area with a recommended seed mixture.

Each of the above items would be a continuing process as the mining expanded into the area.

The initial cut for the open pit excavation would be on the exposed humate seam and would traverse the side of the ridge where the humate is exposed. The cut would be approximately 500 feet in length and 100 feet wide. Any overburden removal required on this cut would be placed on the slope directly below the humate seam and serve as a pad to facilitate the mining operation. After the humate is removed from the initial cut, the next area to be mined would be cleared of brush and topsoil and stockpiled at the end of the proposed cut. The exposed overburden would then be bulldozed into the previously mined section. (Each cut and fill operation would involve approximately 15 acres.) This would provide access to the next block of humate to be removed. This process would continue throughout the mining operation (see Figure 3).

The strip mining would be accomplished by mechanical methods using dozer tractors, rippers, front-end loaders, etc. A small amount of blasting may be required, but would be minimal.

C. Transportation

The raw material would be stockpiled at the mining site and then hauled 5 miles along a county road by truck to the Westwater rail siding; loaded on train cars and then transported to California for final processing.

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Existing Environment

B. Soils

The majority of the proposed area to be mined has shallow, well drained, moderately rapidly permeable soils (soil mapping unit 413 - Shalako gravelly sandy loam, dry, 3 to 8 per cent slopes). This soil is derived dominantly from sandstone and the present vegetation is mainly Utah juniper, shadscale, Wyoming big sagebrush and rabbitbrush.

Typically the surface is covered with 15 per cent channers and 30 per cent gravels. The surface layer is typically gravelly sandy loam 1 inch thick but ranges to include very fine sandy loam. Reaction is mildly alkaline to strongly alkaline (PH 7.9 - 9.0). The subsoil is commonly fine sandy loam, very fine sandy loam and loam, three inches thick. The substratum is commonly gravelly loam, sandy loam and fine sandy loam over sandstone at a depth of 10 inches. Depth of sandstone ranges from 5 to 20 inches. Reaction is moderately alkaline to very strongly alkaline an it is moderately to very stongly calcareous.

Surface runoff is slow and the hydrologic group rating which refers to soils grouped according to their runoff producing characteristics or the inherent capacity of soil base of vegetation to permit infiltration has a high runoff potential due to the limiting depth of the soil and rock outcrop. The hazard of water erosion is slight and the potential erodibility of the soil is low to moderate. The wind erodibility group (WEG) for the gravelly and stony surface types are not subject to wind erosion (WEG = 8). The WEG for fine sandy loam, sandy loam and very fine sandy loam texture is 3 which has a erodibility and estimated soil loss (I Valve) of 86 tons/acre/year.

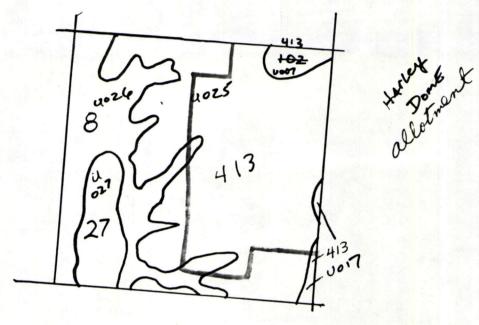
The Shalako soils are in a semidesert shallow loam (Juniper-Pinyon) ecological site.

The are also very small areas of the Ravola family soils (soil mapping unit 8). This soil is found along drainage channels and on broad fans and flats. These soils are very deep and well drained. They are moderately to strongly saline. The present vegetation is greasewood, shadscale and galleta grass. Surface textures are silt loam or silty clay loam. The underlying layers are silt loam or silty clay loam with thin strata of fine sandy loam and loamy fine sand. They are moderately to very strongly alkaline and are moderately to very strongly calcareous.

Runoff is moderate or slow and the hazard of water erosion and potential erodibility is moderate or severe. These soils are susceptible to gully erosion. The hazard of wind erosion is slight. The wind erodibility group rating is 4L with an I value of 86/tons/acre.

The ecological site for this soil is Alkali Flat.

Soils map - Humate EA



soils sect 22, T195, R 25E